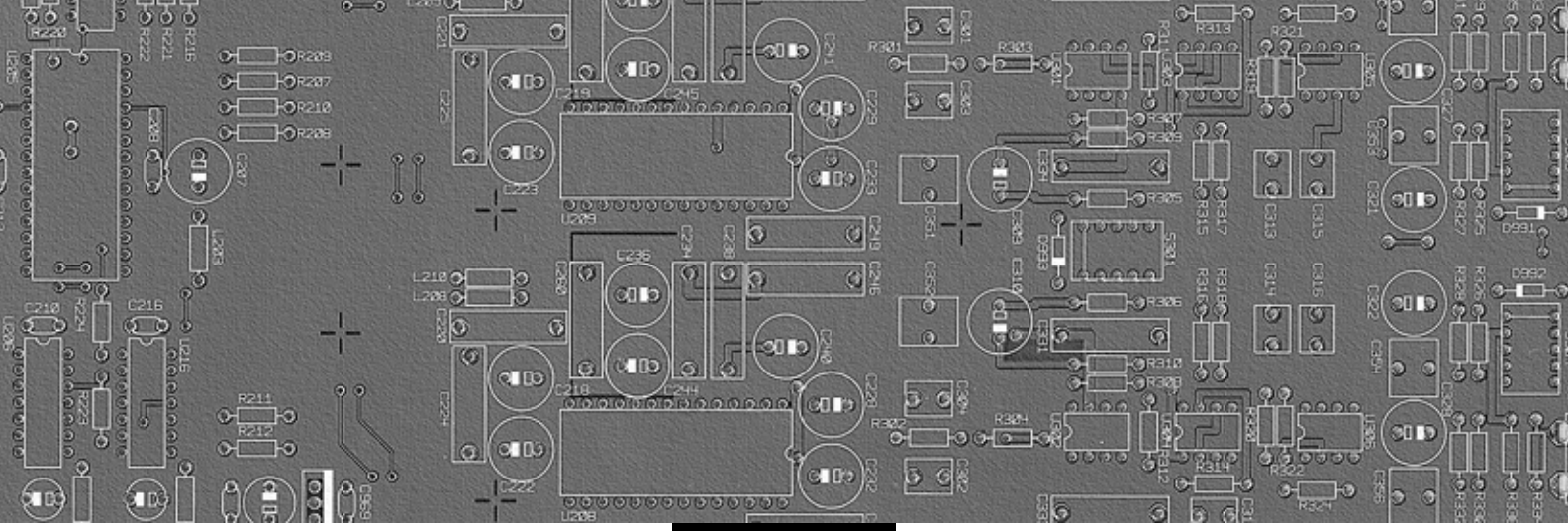
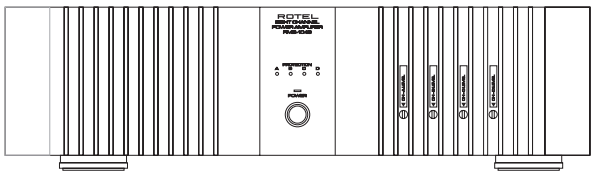


ROTEL

Owner's Manual

RMB-1048

Eight-Channel Power Amplifier



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

APPLICABLE FOR USA, CANADA OR WHERE APPROVED FOR THE USAGE

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT. INSERT FULLY.

ATTENTION: POUR EVITER LES CHOCS ELECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU AU FOND.

This symbol is to alert the user to the presence of uninsulated dangerous voltages inside the product's enclosure that may constitute a risk of electric shock.

This symbol is to alert the user to important operating and maintenance (service) instructions in this manual and literature accompanying the product.

Important Safety Information

WARNING: There are no user serviceable parts inside. Refer all servicing to qualified service personnel.

WARNING: To reduce the risk of fire or electric shock, do not expose the unit to moisture or water. Do not allow foreign objects to get into the enclosure. If the unit is exposed to moisture, or a foreign object gets into the enclosure, immediately disconnect the power cord from the wall. Take the unit to a qualified service person for inspection and necessary repairs.

Read all the instructions before connecting or operating the component. Keep this manual so you can refer to these safety instructions.

Heed all warnings and safety information in these instructions and on the product itself. Follow all operating instructions.

Clean the enclosure only with a dry cloth or a vacuum cleaner.

You must allow 10 cm or 4 inches of unobstructed clearance around the unit. Do not place the unit on a bed, sofa, rug, or similar surface that could block the ventilation slots. If the component is placed in a bookcase or cabinet, there must be ventilation of the cabinet to allow proper cooling.

Keep the component away from radiators, heat registers, stoves, or any other appliance that produces heat.

The unit must be connected to a power supply only of the type and voltage specified on the rear panel of the unit.

Connect the component to the power outlet only with the supplied power supply cable or an exact equivalent. Do not modify the supplied cable in any way. Do not attempt to defeat grounding and/or polarization provisions. Do not use extension cords.

Do not route the power cord where it will be crushed, pinched, bent at severe angles, exposed to heat, or damaged in any way. Pay particular attention to the power cord at the plug and where it exits the back of the unit.

The power cord should be unplugged from the wall outlet if the unit is to be left unused for a long period of time.

Immediately stop using the component and have it inspected and/or serviced by a qualified service agency if:

- The power supply cord or plug has been damaged.
- Objects have fallen or liquid has been spilled into the unit.
- The unit has been exposed to rain.
- The unit shows signs of improper operation
- The unit has been dropped or damaged in any way

Place the unit on a fixed, level surface strong enough to support its weight. Do not place it on a moveable cart that could tip over.

Figure 1: Controls and Connections
Commandes et branchements
Bedienelemente und Anschlüsse
Controlli e Collegamenti
Controles y Conexiones
Bedieningsorganen en aansluitingen
Funktioner och anslutningar

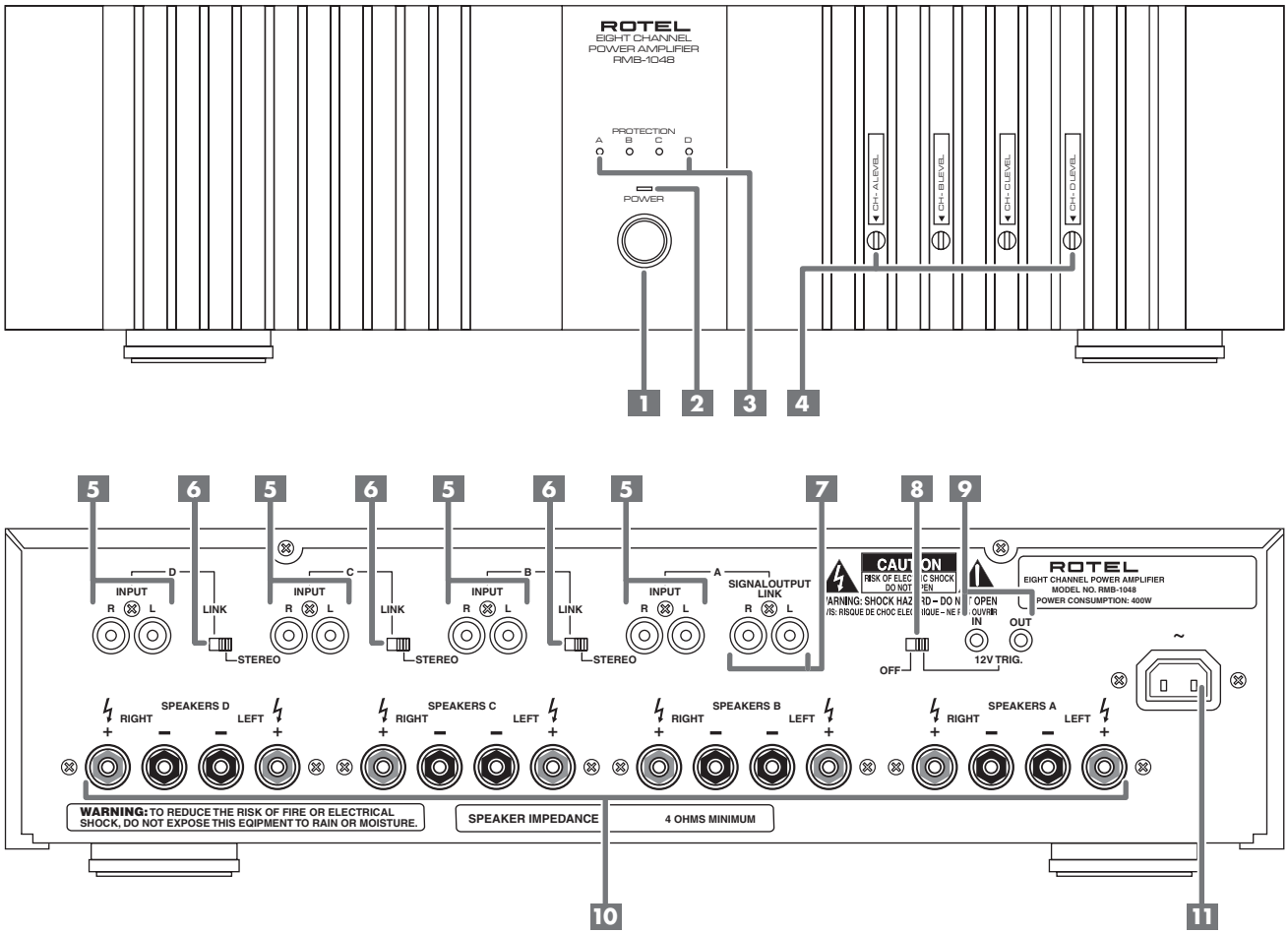
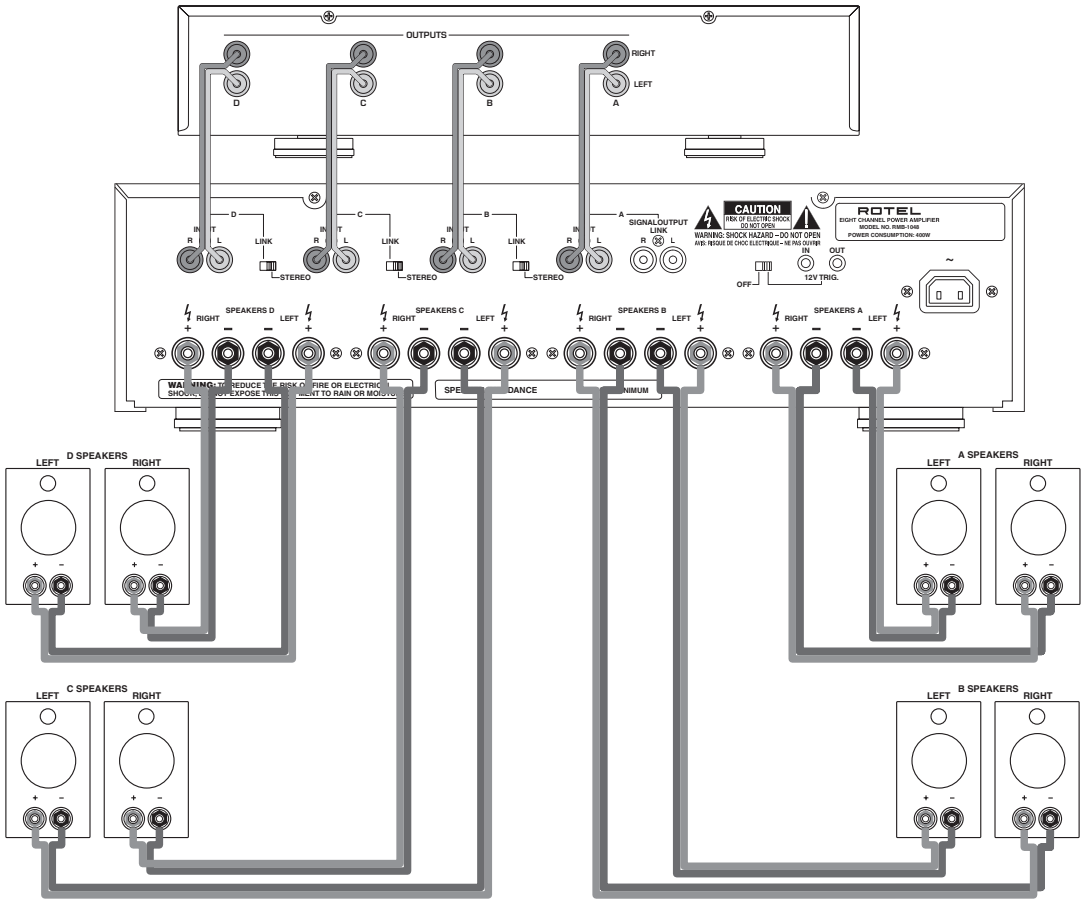


Figure 2: Input and Output Connections
Branchements des entrées et des sorties
Anschlussdiagramm
Collegamenti Ingressi e Uscite
Conexiones de Entrada y Salida
Het aansluiten als een acht kanalen eindversterker
Anslutningar för ingångssignalerna och högtalarutgångarna



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About Rotel

A family whose passionate interest in music led them to manufacture high fidelity components of uncompromising quality founded Rotel over 40 years ago. Over the years that passion has remained undiminished and the goal of providing exceptional value for audiophiles and music lovers regardless of their budget, is shared by all Rotel employees.

The engineers work as a close team, listening to, and fine tuning each new product until it reaches their exacting musical standards. They are free to choose components from around the world in order to make that product the best they can. You are likely to find capacitors from the United Kingdom and Germany, semiconductors from Japan or the United States, and toroidal power transformers manufactured in Rotel's own factory.

Rotel's reputation for excellence has been earned through hundreds of good reviews and awards from the most respected reviewers in the industry, who listen to music every day. Their comments keep the company true to its goal – the pursuit of equipment that is musi cal, reliable and affordable.

All of us at Rotel thank you for buying this product and hope it will bring you many hours of enjoyment.

Getting Started

Thank you for purchasing the Rotel RMB-1048 Eight-Channel Power Amplifier. When used in a high-quality music or home theater system, your Rotel amplifier will provide years of musical enjoyment.

The RMB-1048 is a sophisticated eight-channel power amplifier. Discrete output devices, a massive power supply with toroidal transformer, premium components, and Rotel's Balanced Design ensure superb sound quality. High current capability allows the RMB-1048 to drive difficult speaker loads with ease.

Operating Features

- Four pair of amplifier channels.
- User selectable power on/off configuration: manual or controlled by remote 12 volt trigger signal.
- Front panel input level controls.
- Protection circuitry with front panel indicators.
- Signal link output to pass-through the input signal to another component.

A Few Precautions

Please read this manual carefully. In addition to installation and operating instructions, it provides information on various RMB-1048 system configurations. Please contact your authorized Rotel dealer for answers to any questions you might have. In addition, all of us at Rotel welcome your questions and comments.

Save the RMB-1048 shipping carton and packing material for future use. Shipping or moving the RMB-1048 in anything other than the original packing material may result in severe damage to your amplifier.

Be sure to keep the original sales receipt. It is your best record of the date of purchase, which you will need in the event warranty service is ever required.

Placement

The RMB-1048 generates heat as part of its normal operation. The heat sinks and ventilation openings in the amplifier are designed to dissipate this heat. The ventilation slots in the top cover must be unobstructed. There should be 10 cm (4 inches) of clearance around the chassis, and reasonable airflow through the installation location, to prevent the amplifier from overheating. Likewise, remember the weight of the amplifier when you select an installation location. Make sure that the shelf or cabinet can support its weight.

AC Power and Control

AC Power Input 11

The RMB-1048 is supplied with the proper AC power cord. Use only this cord or an exact equivalent. Do not use an extension cord. A heavy duty multi-tap power outlet strip may be used, but only if it is rated to handle the current demand of the RMB-1048.

Be sure the Power Switch on the front panel of the RMB-1048 is turned off. Then, plug one end of the cord into the AC power connector 11 on the back panel of the amplifier. Plug the other end into an appropriate AC outlet.

Your RMB-1048 is configured at the factory for the proper AC line voltage in the country where you purchased it (USA: 115 volts/60 Hz , Europe: 230 volts/50 Hz). The AC line configuration is noted on a label on the back panel.

NOTE: *Should you move your RMB-1048 to another country, it is possible to configure your amplifier for use on a different line voltage. Do not attempt to perform this conversion yourself. Opening the enclosure of the RMB-1048 exposes you to dangerous voltages. Consult a qualified technician or the Rotel factory service department for information.*

If you are going to be away from home for an extended period of time, it is a sensible precaution to unplug your amplifier.

Power Switch and Indicator 1 2

The Power Switch is located on the front panel. To turn the amplifier on (or to activate either of the optional automatic power-on modes), push the switch in. The LED indicator above the switch will light, indicating that the amplifier is turned on. To turn the amplifier off, push the button again and return it to the out position.

Turn On/Off Mode Selector 8

The RMB-1048 can be turned on and off automatically by using its "12V Trigger" system. The Turn On/Off Mode Selector switch is used to select which method is used.

- With the switch in the OFF position, the amplifier is turned on or off manually using the front panel power switch.
- With the switch in the 12V TRIG. position, the amplifier is turned on automatically when a 12 volt trigger signal is applied to the 3.5mm Jack labeled IN. The front panel POWER SWITCH overrides this function. It must be ON for the +12V trigger to work. Turning the switch OFF cuts power to the amplifier, regardless of whether or not a trigger signal is present.

+12V Trigger Input and Output 9

The jack labeled IN is for connecting the 3.5mm Plug/Cable carrying a +12 volt trigger signal to turn the amplifier on and off. To use this feature the adjacent slide switch must be set in the 12V TRIG position (see previous section). This input accepts any control signal (AC or DC) ranging from 3 volts to 30 volts.

The jack labeled OUT is for connecting another 3.5mm plug/cable to provide a 12V trigger signal to other components. The 12V output signal is available whenever a +12 volt trigger signal is applied to the IN connector.

Protection Indicators 3

Thermal and protection circuits protect the amplifier against potential damage in the event of extreme or faulty operating conditions. Unlike many designs, the RMB-1048's protection circuit is independent of the audio signal and has no impact on sonic performance. Instead, the protection circuit monitors the temperature of the output devices and shuts down the amplifier if safe limits are exceeded.

In addition, the RMB-1048 includes overcurrent protection which operates only when load impedances drop too low. This protection is independent for each of the four pair of channels with separate front panel PROTECTION LEDS for each.

Should a faulty condition arise, the amplifier will stop playing and one or more of the PROTECTION LEDS on the front panel will light.

If this happens, turn the amplifier off, let it cool down for several minutes, and attempt to identify and correct the problem. When you turn the amplifier back on, the protection circuit will automatically reset and the PROTECTION LEDS should go out.

In most cases, the protection circuitry activates because of a fault condition such as shorted speaker wires, or inadequate ventilation leading to an overheating condition. In very rare cases, highly reactive or extremely low impedance speaker loads could cause the protection circuit to engage.

Input Signal Connections 5

See Figure 2

The RMB-1048 has standard unbalanced RCA-type input connectors, the type used on nearly all audio equipment. There are two RCA inputs for each of the four pair of amplifier channels. These RCA inputs accept audio signals from preamplifiers or surround sound processors. Use high quality audio interconnect cables for best performance.

Input Signal Link Switches 6

The input signal to the "A" channels to be passed on to one or more of the other sets of channels by using the input signal LINK switches. When the "B", "C" and/or "D" channels have their Input Signal Link Switches set to the LINK position, they receive the same signal as the "A" channels. When these switches are set to the STEREO position the corresponding channel receive their signals from the normal inputs.

Signal Output Link Connectors 7

The input signal that goes to the "A" inputs is also passed on the Signal Output Link connectors. This can be used to provide an input signal to another audio component. For example, it can be used to "daisy-chain" another amplifier to drive additional speakers.

Input Level Controls 4

Four controls on the front panel, one for each pair of amplifier channels, provide input level adjustments. These allow you to adjust the gain of the amplifiers to match other components in an elaborate system.

Use a small flat blade screwdriver to turn the control clockwise to increase gain. Turn the control counterclockwise to reduce gain.

Speakers

The RMB-1048 has four groups of speaker connectors, one for each pair of amplifier channels.

Speaker Selection

The nominal impedance of the loudspeaker(s) connected to each chanel of the RMB-1048 in the various operating modes should be no lower than minimum 4 ohms

Speaker Wire Selection

Use insulated two-conductor stranded wire to connect the RMB-1048 to the speakers. The size and quality of the wire can have an audible effect on the performance of the system. Standard speaker wire will work, but can result in lower output or diminished bass response, particularly over longer distances. In general, heavier wire will improve the sound. For best performance, you may want to consider special high-quality speaker cables. Your authorized Rotel dealer can help in the selection of appropriate cables for your system.

Polarity and Phasing

The polarity – the positive/negative orientation of the connections – for every speaker and amplifier connection must be consistent so all the speakers will be in phase. If the polarity of one connection is mistakenly reversed, bass output will be very weak and stereo imaging degraded. All wire is marked so you can identify the two conductors. There may be ribs or a stripe on the insulation of one conductor. The wire may have clear insulation with different color conductors (copper and silver). There may be polarity indications printed on the insulation. Identify the positive and negative conductors and be consistent with every speaker and amplifier connection.

Speaker Connections 10

See Figure 2

The RMB-1048 has two pair of color coded connections for each group of amplifier channels. Labels above the connectors show the proper connections for connecting speakers. These speaker connectors accept bare wire, connector lugs, or "banana" type connectors (except in the European Community countries where their use is not permitted).

Route the wires from the RMB-1048 to the speakers. Give yourself enough slack so you can move the components to allow access to the speaker connectors.

If you are using banana plugs, connect them to the wires and then plug into the backs of the speaker connectors. The collars of the speaker connectors should be screwed in all the way (clockwise).

If you are using terminal lugs, connect them to the wires. If you are attaching bare wires directly to the speaker connectors, separate the wire conductors and strip back the insulation from the end of each conductor. Be careful not to cut into the wire strands. Unscrew (turn counterclockwise) the speaker connector collar. Place the connector lug around the shaft, or insert the bundled wire into the hole in the shaft. Turn the collars clockwise to clamp the connector lug or wire firmly in place.

NOTE: *Be sure there are no loose wire strands that could touch adjacent wires or connectors.*

Troubleshooting

Most difficulties in audio systems are the result of poor or wrong connections, or improper control settings. If you encounter problems, isolate the area of the difficulty, check the control settings, determine the cause of the fault and make the necessary changes. If you are unable to get sound from the RMB-1048, refer to the suggestions for the following conditions:

Front Panel Power Indicator Is Not Lit

No main power to the RMB-1048. Check AC power connections at the amplifier and the AC outlet. Check the front panel power switch. Make sure that it is set to the ON position. If using signal sensing auto power-on, make sure that a signal is present at the inputs. If using 12V trigger power-on, make sure that a trigger signal is present at rear panel screw terminals.

No Sound

If the amp is getting AC power, but is producing no sound, check the PROTECTION INDICATORS on the front panel. If lit, see below. If not, check all of your connections and control settings on associated components. Make sure that your input connections and speaker connections match your selected stereo/mono configuration.

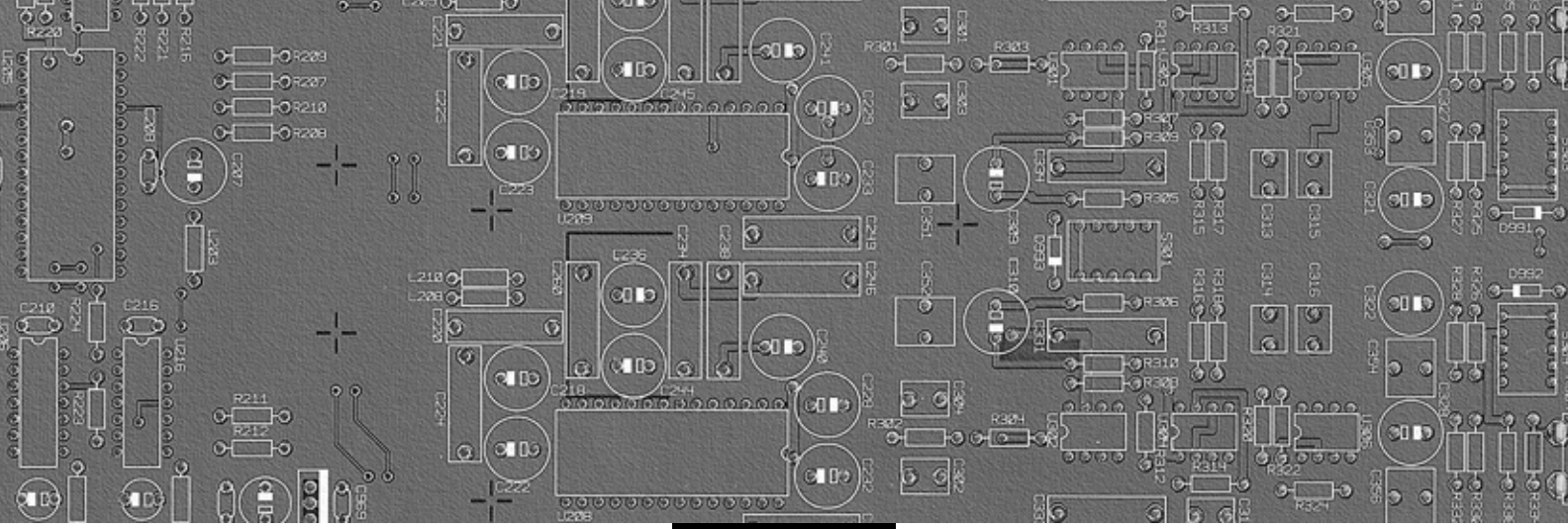
Protection Indicator Is Lit

The front panel PROTECTION INDICATORS light when the RMB-1048 protection circuits have shut off the amplifier. Typically, this occurs only when the ventilation openings are blocked, when there is faulty speaker wiring, or after a period of extreme use. Turn off the system and wait for the amp to cool. Then push the front panel power switch in and out to reset the protection devices. If the problem is not corrected or reoccurs, there is a problem with the system or the amplifier itself.

Specifications

Continuous Power Output - all channel driven (20-20 kHz, < 0.05% THD)	40 watts/ch into 8 ohms
Total Harmonic Distortion (20Hz-20kHz, 8 ohms)	< 0.05%
Intermodulation Distortion (60 Hz : 7 kHz, 4:1)	< 0.03%
Frequency Response (± 1 dB)	15Hz–100kHz
Damping Factor (20-20,000 Hz, 8 ohms)	150
Speaker Impedance	4 ohms minimum
Signal to Noise Ratio (IHF A network)	110 dB
Input Impedance	22 k ohms
Input Sensitivity	1.0 volt
Power Requirements	
USA:	115 Volts, 60 Hz
Europe:	230 Volts, 50 Hz
Power Consumption	400 Watts
Dimensions (W x H x D)	432 x 121 x 432 mm 17 x 4 3/4 x 17 in
Panel Height	109 mm, 4 9/32 in
Weight (net)	15.1 kg, 33.3 lb.

All specifications are accurate at the time of printing.
Rotel reserves the right to make improvements without notice.



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